7500 Series
Installation Guide

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7500 Series™ Quick Install Guide
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Table of Contents

Preface iv
- Who Should Read this Guide v
- How to Use this Guide v
- Support v

Chapter 1 ◆ Overview 1
- About the 7500 Series 2
- Shipment 2
- Unit Casing Description 2

Chapter 2 ◆ Configuration and Installation 4
- Configuration 5
- Point-to-Point Connection 6
- Physical Installation 7
- Status LED 8

Index 9

Preface

The *7500 Series™ Quick Install Guide* explains how to configure and install DVTel's high resolution 7500 Series video servers.

Who Should Read this Guide

This guide is intended for engineers and technicians who will install 7500 Series encoders/decoders. It provides basic information on how to configure and install the units.

This guide assumes that you are familiar with:

- Installation and manipulation of electronic equipment
- General use of computers
- Microsoft Windows operating systems

How to Use this Guide

The *7500 Series Quick Install Guide* contains the basic information needed to install and configure a 7500 Series video server. It is divided into the following chapters:

1. **Overview**—Provides a brief description of the features of the 7500 Series and an illustration of its casing.
2. **Configuration and Installation**—Presents the configuration and installation procedures of the unit.

An index and a unit description form complete the guide.

In addition to this guide, the following documentation is also available:

- *7500 Series User Manual*—Contains conceptual information on the configuration, installation, and operation of the 7500 Series units.
- *Device Configurator User Guide*—Presents instructions for using DVTel's Device Configurator software to configure the 7500 Series units.
- *Release Notes*—Contain information about 7500 Series upgrades and known issues still under investigation. The Release Notes also provide descriptions of features not covered in this version of the documentation.

All these documents are contained on the DVTel CD shipped with the 7500 Series units.

Support

If you encounter any problems after reading this manual, contact your local distributor or DVTel representative. You can also browse the Technical Support Knowledge Base, located in the Support section of our website, for solutions to many of the most common problems.

DVTel technical support personnel is available for help with all DVTel hardware and software products.

To reach technical support	
On the Web:	**Support** tab on www.dvtel.com
By phone:	**(888) DVTel 77**, Monday to Friday, from 8 AM to 6 PM EST
By email:	**ta@dvtel.com**

1

Overview

Designed for video monitoring and surveillance over IP networks, the 7500 Series of video servers provides a self-contained solution capable of delivering high quality, full motion video over standard 10/100Base-T networks. The video server can easily be extended over local and wide area networks (LANs and WANs) or the Internet (using ISDN, PSTN, or xDSL routers). It is built on open standards to provide long-term investment protection.

About the 7500 Series

The 7500 Series enables video viewing from web browsers. PTZ cameras can be controlled using web browsers as well.

7500 Series units are for indoor use only.

The 7500 Series system is configured to interface, right out of the box, with the most popular camera data port configurations (4800 baud, 8 data bits, no parity, 1 stop bit).

The 7500 Series features both receivers (decoders) and transmitters (encoders). Unless otherwise specified, the phrase *7500 Series* refers to any of these units.

7500 Series video servers can be purchased, by request, with an extended temperature option.

The 7500 Series units have two independent serial ports (RS-232 and RS422/485) that can be used simultaneously by any compatible serial device.

Every 7500 Series unit comes with a unique SSL (secure sockets layer) certificate for securing its IP link. SSL is a commonly-used protocol for managing the security of a message transmission on an IP network. The connections between a receiver and a transmitter or between either type of unit and a DVTel software application can therefore be secured.

The video resolution of 7500 Series units (where the horizontal resolution is the number of columns, and the vertical resolution, the number of lines) is:

Resolution	Horizontal resolution	Vertical resolution	
	NTSC/PAL	NTSC	PAL
QCIF	176	120	144
CIF	352	240	288
2CIF	352	384	448
4CIF	704	480	576
All lines	352	480	576

Their video frame rate is in the 1–30 frames per second (fps) range in NTSC, and 1–25 fps in PAL. The frame rate can be changed by the user at any time based on his or her needs.

Shipment

Your 7500 Series shipment contains the following items:

- The requested transmitter and/or receiver units:

Product code	Description
7500 Series-D	Ethernet receiver (decoder)
7500 Series-E/M	Ethernet transmitter (encoder)
7500 Series-XT	Ethernet transmitter for extended temperature (by request only)
ProductCode-*A*	Transmitter or receiver with bidirectional audio

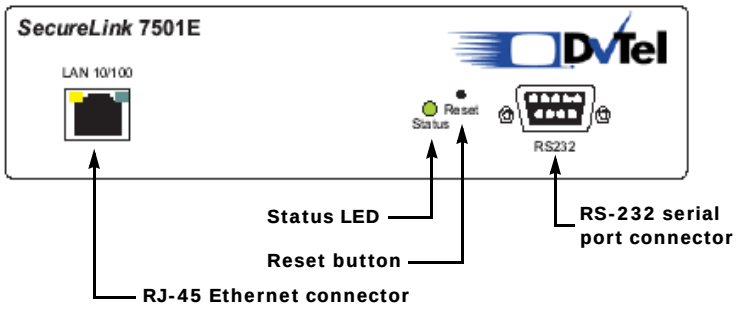
- 12V DC external power supply (North America only).
- The DVTel SecureLink CD, which contains documentation and release notes for the 7500 Series units as well as the Device Configurator application.

The shipment may also contain the optional 10, 6, or 3-unit rack mount panels.

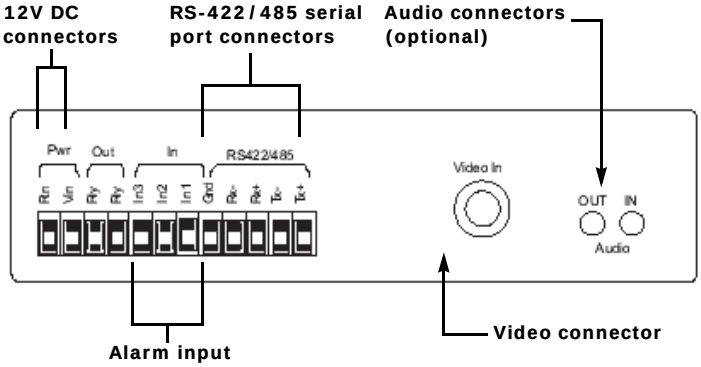
Unit Casing Description

The 7500 Series electronics are enclosed in a non-weatherproof extruded aluminium casing that is not meant for outdoor use.

The front panel consists of an RJ-45 jack, a status LED, a reset button (7501E and 7502M only), and a female DB-9 connector for RS-232 use.



The back panel consists of a 12-pin terminal strip (for 12V DC power, alarm, and RS-422/485), one female BNC connector to be used as video input or output, and optional audio connectors.



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Configuration and Installation

To prepare your 7500 Series unit for operation, you will need to perform a series of steps:

- Basic configuration, mainly for communication and serial connections
- Creation of a point-to-point connection (only if the video server is **NOT** used in conjunction with NVRS)
- Physical installation of the video server in its final location

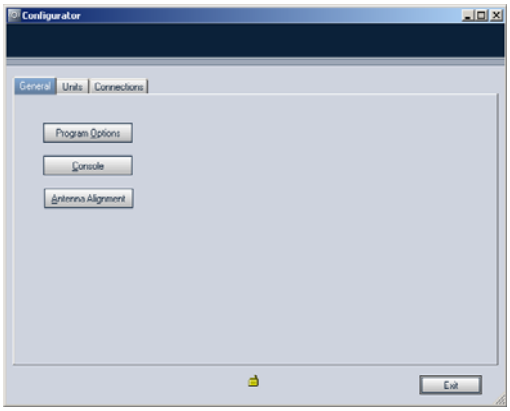
Configuration

The first step in installing an 7500 Series system is to change the IP address of the unit to ensure compatibility with any existing LAN or WAN. Write down the IP information in the form located at the end of the guide on page 65.

To set the IP parameters:

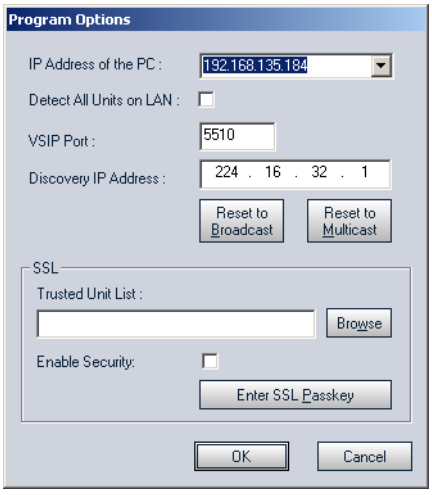
1. Unpack the unit and set it on a table.
2. Plug the encoder or decoder either directly to a computer, using a **crossover** IP cable, or to your LAN, using a **straight-through** IP cable.
3. Power the video server using the 12V DC power supply.
4. On the computer, start the Device Configurator software included in the DVTel SecureLink CD.

   The **Device Configurator** window will appear.



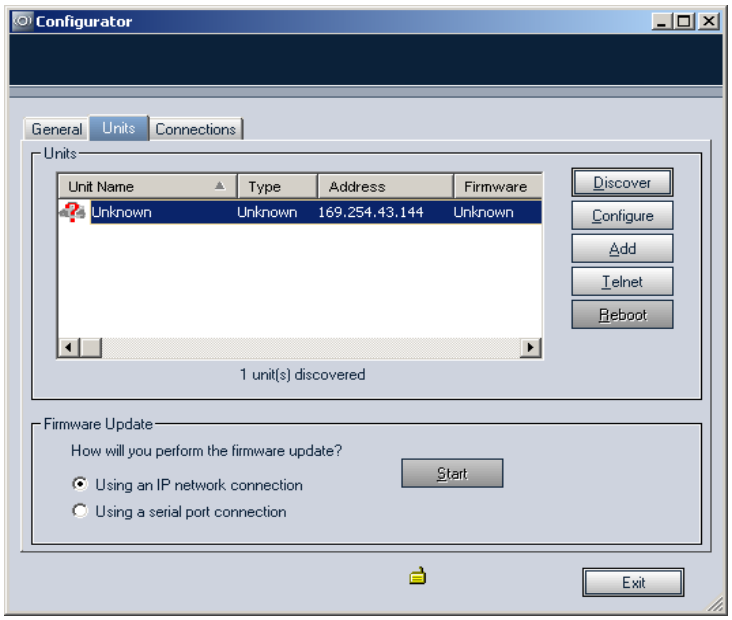
5. From the **General** tab, click **Program Options**.

   The **Program Options** window will appear.



6. Leave the **VSIP Port** value at 5510 (the default) unless you are using an advanced system that requires otherwise (e.g. a multiple server NVRS).
7. Checkmark **Detect All Units on LAN** and click **OK**.
8. Choose the **Units** tab, then click **Discover**.

A unit of type “Unknown” with a 169.254.*X.Y* IP address should appear in the **Units** box; it corresponds to your new unit.

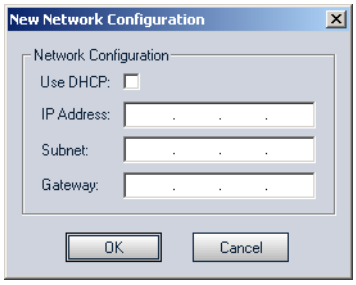


Other units, already configured and connected to the network, may also appear.

9 Double-click the unit you would like to configur.

10 In the **Reconfigure unit?** confirmation window, click **Yes**.

The **New Network Configuration** window will appear.



11 To use DHCP (dynamic host configuration protocol), checkmark **Use DHCP**. Otherwise, enter the IP address, subnet mask, and gateway that you would like to assign the unit. You may want to consult your network administrator to determine these values.

For more details on DHCP, refer to the *7500 Series User Manual*.

12 Click **OK**.

Your video server’s initial configuration is now complete. It can now be connected to your IP network.

Point-to-Point Connection

NOTE: Please skip this section if your encoder/decoder will be used in conjunction with NVRS. All connections in NVRS are created automatically by the server based on the settings chosen by users with the Config Tool.

To display a camera’s output on a monitor, you will need to create a connection between a transmitter connected to the camera and receiver connected to the monitor. Both units must reside on the same IP network.

For more information about this procedure, refer to the “Managing Connections” chapter in the *Device Configurator User Manual*.

To create a point-to-point connection:

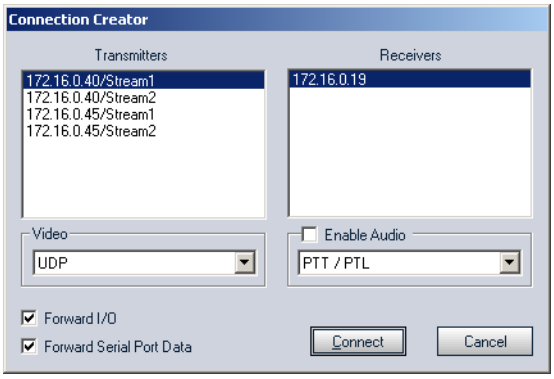
1 Start Deviice Configurator.

2 Choose the **Units** tab and click **Discover**.

All DVTel units on the network should appear in the **Units** list. If the unit being configured does not appear, check that its VSIP port is the same as the computer's.

3 Choose the **Connections** tab, then click **Add**.

The **Connection Creator** window will appear.



4 Select a **stream2** transmitter in the left column and a receiver in the right one.

5 To disable I/O data transmission (for example, alarms), uncheck the **Forward I/O** box.

6 To disable serial port data transmission (like PTZ commands), uncheck **Forward Serial Port Data**.

7 To enable audio between the units, checkmark **Enable Audio**, then select the audio mode.

8 Click **Connect**.

You should now have video on your monitor.

Physical Installation

Once your video servers are configured they can be installed at any location connected to your network. Often, encoders are placed near cameras and decoders near monitors, though that is not required, particularly when a BNC infrastructure is already in place.

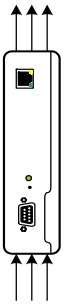
To install a unit:

1 If connecting an encoder, plug the unit's **Video in** port to a video camera's BNC output cable. If connecting a decoder, plug the unit's **Video out** port to a monitor's BNC input cable.

2 If required, connect the RS-422/485 serial port of the unit to the appropriate dome/PTZ/control panel interface.

3 Through its RJ-45 port, connect the unit to your network with a standard network cable.

4 If your unit is an extended temperature model, place it vertically to allow for better cooling.



Status LED

The status LED is a bicolor (green-red) LED that provides detailed information on the current state of the unit.

Condition	Indication	Encoder	Decoder
Steady red	The unit is powering up.	✓	✓
Flashing red (0.1 sec. intervals)	The IP address of the unit is already assigned to another unit in the network.	✓	✓
Flashing green (3 sec. intervals)	The firmware has started, but the unit is not connected to the network.	✓	✓
Flashing green (1 sec. intervals)	The firmware has started, the unit is connected to the network, but no video/audio/serial* data is being transmitted.	✓	
	The firmware has started, the unit is connected to the network, but no video is received or audio/serial* data is received/transmitted.		✓
Flashing green (0.5 sec. intervals)	The firmware has started, the unit is connected to the network, and video/audio/serial* data is transmitted.	✓	
	The firmware has started, the unit is connected to the network, and video is received or audio/serial* data is received/transmitted.		✓
Three consecutive red blinks every 3 to 5 sec.	No video input is detected.	✓	
Flashing green-red (1 sec. intervals)	The unit is undergoing a firmware update.	✓	✓
Flashing red (0.1 sec. intervals)	The unit is being identified.	✓	✓
One red blink	A video packet is lost. In the worst case, it could flash at 5 Hz.		✓

* At least one of them must be transferred to obtain the LED condition.

Warning

The following power-up conditions are abnormal:

- LED not lit: Check the power supply and cabling. If power is available and the LED stays off, call DVTel technical support for assistance.
- Steady red LED: There is an internal error that prevents the unit from starting normally. Try rebooting the unit once. If the condition persists, perform a firmware update (for details, refer to the *Device Configurator User Manual*). If the update fails or the condition persists after the update, call DVTel technical support for assistance.
- Flashing red LED (2 second intervals): There is an internal error that prevents the unit from operating normally. This situation may happen after a firmware update or after the first boot-up. Power down the unit and call DVTel technical support for assistance.
- Flashing green-red LED not on during a firmware update: The unit is in backup mode; you will need to perform a firmware update using a serial connection.

Index

A
abnormal power-up condition *8*

C
camera data port configuration *2*
casing of the unit *3*
characteristics of the unit *2*
CIF resolution *2*
configuration
  camera data port *2*
  unit *5–6*
connection, point-to-point *6*

D
Device Confidurator *5*
DHCP (dynamic host configuration protocol) *6*

E
enclosure, unit *3*
equipment list *3*

F
features of the unit *2*
frame rate *2*

I
installation *7*
IP address *5*
IP link, secure *2*

L
LED, status *8*
list of equipment *3*

O
options, when ordering a unit *3*

P
panel of unit *3*
point-to-point connection *6*
port, serial *2*
power-up condition, abnormal *8*

R
resolution *2*
RS-232 *2*
RS-422 *2*

S
secure IP link *2*
serial port *2*
shipment list *3*
SSL (secure sockets layer) *2*
status LED *8*
support, technical *v*

T
technical support *v*

V
video settings *2*